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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/760,622	01/16/2001	Zhong Chen	10010168-1	5523

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EXAMINER

CRAVER, CHARLES R

ART UNIT PAPER NUMBER

2682

DATE MAILED: 06/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/760,622

Applicant(s)

CHEN ET AL.

Examiner

Charles R Craver

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,4,6-10,12,13,15,17 and 19 is/are rejected.
- 7) ☒ Claim(s) 2,3,5,11,14,16,18 and 20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, 6, 8, 9, 12 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Kivela, US Pat 5,854,970.

Claim 1: Kivela discloses a system for testing an RF device with an antenna which communicates with a terminal (Base Station), including a coupler (10) comprising a conducting member having a base wall to engage a portion of the RF device body (col 4 lines 3-9), an antenna-receiving member to receive at least a portion of the antenna (16), and a tuning member (18) to receive a portion of the antenna such that at least a first portion of the antenna is receivable by the receiving member and the second portion of the antenna is receivable by the tuning member (col 4 lines 11-58), wherein resonance in a coupling coefficient of an RF signal from the antenna is inherently a part of the tuning by said tuning member. **Claim 4:** the coil and cup define an orifice and a cavity. **Claim 6:** the coupling coefficient would inherently be damped by the tuning material. **Claim 8:** Kivela discloses means to support the tuning member (col 4 lines 10-33). **Claim 9:** since the coil is conducting, it is read as ferrite. **Claim 12:** Kivela discloses that the antenna-receiving member has a rounded end (contoured periphery)

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to allow the antenna to be completely inserted during engagement (FIG 2). **Claim 13:**
the tuning member engages the antenna-receiving support member by surrounding it.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 10, 15, 17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kivela.

Claim 7: while disclosing applicant's invention of claim 1 above, Kivela fails to disclose that the terminal (i.e. a Base Station) is test equipment, however, given that a standard process in cellular systems at the time of the invention was to use an RF signal propagated from the mobile to the BS to test the air interface, such would have been an obvious use of the mobile station method of Kivela.

Claim 10: while disclosing applicant's invention of claim 1 above, Kivela fails to disclose that the antenna-receiving member is formed of brass, however, given that such was a notoriously well-known material at the time of the invention, the examiner takes Official Notice of such a feature, asserting that one of ordinary skill in the art would have found such a feature obvious given the wealth of materials used in the art of antennas and antenna coupling.

Claim 15: while disclosing applicant's invention of claim 6 above, Kivela fails to disclose that the damping occurs at around 850 MHz, however given that Kivela operates in a cellular system, which may include an 800-900MHz band, such would have been an obvious damping frequency for use in Kivela.

Claim 17: Kivela discloses a method for coupling an RF signal between an RF device and a terminal equipment comprising an RF device (30) comprising an antenna a first (top) and second (bottom) portions at least partially surrounded by a tuning material (col 3 line 40-col 4 line 43), and a coupled RF signal coupled to a second portion (port) of the antenna between the first and the RF device body (col 8 lines 1-22).

Kivela fails to disclose that the terminal (i.e. a Base Station) is test equipment, however, given that a standard process in cellular systems at the time of the invention was to use an RF signal propagated from the mobile to the BS to test the air interface, such would have been an obvious use of the mobile station method of Kivela.

Claim 19: the coupling coefficient would inherently be damped by the tuning material.

Allowable Subject Matter

Claims 2, 3, 5, 11, 14, 16, 18 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Claim 2 teaches towards a system for testing an RF device with an antenna including a coupler comprising a conducting member having a base wall to engage a portion of the RF device body, an antenna-receiving member to receive at least a portion of the antenna, and a tuning member to receive a portion of the antenna such that at least a first portion of the antenna is receivable by the receiving member and the second portion of the antenna is receivable by the tuning member, wherein resonance in a coupling coefficient of an RF signal from the antenna is a part of the tuning by said tuning member, further including injection of an RF signal in a first direction, such that a coupled signal is characterized by an opposite direction to the first. Claim 3 recites a resistive load between the antenna receiving member and the conductive member to increase the coupling coefficient, while claim 5 adds that a resistive load is used to reduce a VSWR of the coupler. Claim 11 adds a side wall to the conductive member extending outward from the base wall to form an L-shaped configuration such that the side wall aligns the antenna with the receiving and tuning member.

Claim 14 teaches towards a system for testing an RF device with an antenna including a coupler comprising a conducting member having a base wall to engage a portion of the RF device body, an antenna-receiving member to receive at least a portion of the antenna, and a tuning member to receive a portion of the antenna such that at least a first portion of the antenna is receivable by the receiving member and the second portion of the antenna is receivable by the tuning member, wherein resonance in a coupling coefficient of an RF signal from the antenna is a part of the tuning by said tuning member, further including the receiving and tuning member defining an orifice

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and a cavity and wherein an RF connector electrically engages the coupler as a coaxial cable having a shield for connecting to the conducting plate. Claim 16 adds that the support member maintains a spaced arrangement of the receiving member and the conducting plate.

Claim 18 teaches towards a method for coupling an RF signal between an RF device and a test equipment comprising an RF device comprising an antenna a first and second portions at least partially surrounded by a tuning material, and a coupled RF signal coupled to a second portion of the antenna between the first and the RF device body, further including injection of an RF signal in a first direction, such that a coupled signal is characterized by an opposite direction to the first. Claim 20 adds that the injected signal is injected with test equipment, and a characteristic of the coupled signal is measured and used to tune the RF device.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ludewig discloses connections to test equipment.

Blaese, Hsu and Wood discuss shielding for antennas.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

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(703) 872-9314 for both formal and informal/draft communications, labeled as such.

Hand delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington VA, sixth floor (receptionist).

Any inquiry concerning this or earlier communications from the examiner should be directed to examiner Charles Craver at (703) 305-3965.

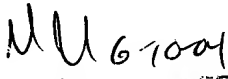
If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Vivian Chin, can be reached at (703) 308-6739.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist at (703) 305-4700.

CC

C.Craver

June 10, 2004


CHARLES CRAVER
PATENT EXAMINER